

PEER REVIEW OF THE UPDATED PCB EXPOSURE ESTIMATION TOOL AND EXPOSURE LEVELS FOR EVALUATING PCBs IN INDOOR SCHOOL AIR (Air ELEs)

Introduction and Purpose

The PCB Exposure Estimation Tool was developed in 2009 (Version 1.1) to help exposure/risk assessors estimate total PCB exposures. It was updated in 2010 (Version 1.2) to include revised dietary dose levels provided by FDA. Recently, the Tool has been updated again (Version 2.0) to include more recent data on background concentrations of PCBs in environmental media, based on a systematic review of the scientific literature, and updated exposure factors from the *Exposure Factors Handbook: 2011 Edition* and its 2017 updates.

The Tool provides exposure estimates for school children (daycare, pre-school, elementary, middle and high school) and school staff including teachers and other school personnel. Total PCB exposures are estimated as the sum of exposures occurring in non-school (background) and school settings. Non-school exposure pathways include indoor and outdoor air, indoor dust, outside soils and diet. School exposure pathways include school indoor and outdoor air, indoor dust, and nearby outside soils. The Tool contains a series of 11 worksheets or tabs that provide background information, input assumptions, calculations, results, and other relevant information.

The PCB Exposure Estimation Tool has been used to calculate Exposure Levels for Evaluating (ELE) PCB concentrations in indoor school air. These values represent the maximum PCB air concentration that would not result in an exceedance of the RfD for PCB Aroclor 1254 (the more conservative of the two RfDs available for PCB Aroclors), considering background exposures from other school and non-school pathways, rounded to one significant figure. The current ELEs for indoor school air are available at <https://www.epa.gov/pcbs/exposure-levels-evaluating-polychlorinated-biphenyls-pcbs-indoor-school-air>. They are not intended to be interpreted or applied as “bright line” or “not-to-exceed” criteria, but may be used to guide thoughtful evaluation of indoor air quality in schools. Users of the PCB Exposure Estimation Tool are encouraged to use site specific background data, where available, and to adjust the ELEs as appropriate.

The purpose of this peer review is to solicit comments on EPA’s revised PCB Exposure Estimation Tool (Version 2.0) and its use in selecting updated ELEs for PCBs in indoor school air. Please respond to the following questions on the PCB Exposure Estimation Tool. The PCB Exposure Estimation Tool spreadsheet, and a resource document that describes the systematic review methods used for updating the Tool are being provided separately.

Charge to Reviewers

- Please comment on the utility and functionality of the PCB Exposure Estimation Tool.
- Please comment on the updated background concentrations used for PCBs in various exposure media (e.g., soil, dust, non-school air) for estimating exposure and developing the ELEs. Are you aware of any data that would better represent background PCB concentrations in these media?
- Please comment on the input exposure assumptions (e.g., exposure factors) for estimating exposures, and use of the toxicity reference value (i.e., RfD for 1254) for calculating the ELEs for indoor school air.
- Please comment on the appropriateness of the calculations used for estimating exposures and calculating the ELEs for indoor school air.
- Please comment on the documentation provided in the PCB Exposure Estimation Tool (Tabs A through K). Does the Tool provide an adequate level of transparency to allow users to see how the calculations are performed and what data are used in the calculations?
- Please comment on the process used to update the Tool and its transparency, as described in the document entitled *Systematic Review for Updating the Polychlorinated Biphenyl (PCB) Exposure Estimation Tool and the Exposure Levels for Evaluating PCBs in Indoor School*.